ABSTRACT

The invention relates to a process for the preparation of poly(α-methylstyrene) by anionic polymerization of the α-methylstyrene monomer, said process successively comprising the following stages:

a) a stage of preparation of a solution comprising the α-methylstyrene monomer and a nonpolar aprotic solvent;

b) a stage of neutralization of the solution prepared in a) comprising the addition, to this solution, of an effective amount of at least one monofunctional organometallic initiator, so as to neutralize the proton sources of the solution prepared in a);

c) a stage of cooling the solution obtained in b) to a temperature of less than 0°C;

d) a stage of initiation of the polymerization comprising the addition, to the cooled solution in c), of a predetermined amount of said monofunctional initiator;

e) a stage of propagation of the polymerization comprising the addition, to the solution obtained in d), of a polar aprotic solvent, said solvent being added in an amount which is lower than that of the nonpolar aprotic solvent;

f) a stage of termination comprising the addition, to the solution prepared in e), of a polar protic solvent.